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SOME POSSIBILITIES IN THE PRACTICAL APPLICATION OF FEDERAL CENSUS RESULTS.*

BY WILLIAM S. ROSSITER.

Legislation to comply with the provision of the Constitution requiring enumeration of all the inhabitants of the United States, was one of the subjects which early claimed the attention of the First Congress. A few of the more thoughtful members of that historic body dimly perceived in the proposed census certain limited possibilities of usefulness to the government in addition to securing the basis of apportionment of representatives in Congress. The arguments of this small group prevailed with their associates to the extent of securing a provision in the law requiring that a few simple facts be obtained, instead merely of a count of inhabitants, and thus the American Census was started upon its career of growth and of usefulness in connection with innumerable public and private problems.

At the period of the First Census the opportunity for a variety of striking census facts and hence for usefulness to the statesman and the student unquestionably was much less than it is today. A century and a third ago probably no one of the civilized nations possessed a more homogenous population than did the young republic in North America. The white population of the United States at the time of the first census appears to have been composed of considerably more than 95 per cent. of British stock. Hence, at the earlier censuses, the subjects of nativity and parentage which are of such importance today, in a comparative sense, were scarcely worth considering. Moreover, manufacturing was accomplished by farm households; there was no transportation; wage-earners were almost wholly males; and furthermore about 90 per cent. of the population was engaged in, or dependent on, some form of agriculture. Consequently the interesting and complicated subjects of gainful occupa-

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tions for both sexes, of seasonal trades, and the statistics of industrial operations were equally unknown.

In examining the reports of successive federal censuses, the student is especially impressed by the growth from decade to decade in the amount of information presented upon basic subjects such as population and occupations, and by the expansion of inquiries. It is clear that there must have existed an increasing demand for information, resulting doubtless from the rapid growth of the nation. Expansion in the amount and variety of federal census data did not result from mere curiosity or scientific progress. A constantly wider desire to turn the figures obtained to some practical use was a factor of importance.

We shall all agree that at the present time, in composition of the population, in place of residence, and in occupation, the American people are in a state of flux, yet in population change and in occupation must lie ultimately the answer to the question so frequently asked concerning the permanence of the republic. But as these subjects become more complicated they become more difficult to comprehend and more serious. There are, indeed, many problems arising from time to time in connection with both subjects, upon which a well-equipped and effectively conducted federal census bureau, by reference to the wealth of census material, could throw much light by means of frequent special studies which might be, and indeed ought to be, of direct practical value to states and local communities.

The writer's ideal for the federal Census Bureau has long been to see it become an effective laboratory of experiment having somewhat the same relationship to the population of the United States as that borne by some of the bureaus of the agricultural department to the welfare of plants and animals. A somewhat intimate connection with the federal Census Office and especially with its publications, for a period of ten or a dozen years during and following the Twelfth Census, developed the conviction that a proper distribution of the labor of conducting the routine affairs of the bureau and of preparing and issuing special, helpful studies had not been reached. This defect was so clearly recognized

that certain changes of policy were under serious consideration by the then Director of the Census to greatly broaden the practical value of census results. The period was, and still is, peculiarly appropriate for special research and interpretation. The remarkable increase in population of foreign birth drawn from races which hitherto have borne little share in the upbuilding of the nation and representing extreme departures in racial types, the eddying tides of humanity which before had always formed one great general current westward, and the increasing complexity of industrial operations resulting in striking and perhaps unexplained changes invited special studies likely to be profitable for individual states.

After retiring from the federal service following the change which occurred in the administration of the Bureau in 1909, the writer determined to test in a limited way the value of the plan for special studies by an experiment to be made as soon as the results of the enumeration at the Thirteenth Census were announced. He had long been interested in the population conditions in Vermont. He believed, in the light of previous census returns, that this state was in need of an orderly analysis of the changes which had been long in progress. Accordingly, in the intervals of many activities, he prepared an analysis of population conditions in the state from tables very courteously prepared by the Director of the Census. This study which was published somewhat more than a year ago in the *Quarterly Publications** of this Association, may be recalled by some of those present. The immediate effect of this review of conditions in Vermont, which necessarily carried with it some elements of discouragement and revealed conditions in some respects rather grave, was to excite criticism. Doubtless this resulted largely from the fact that the paper was a private production, as contrasted with a government report, and had the Vermont analysis been part of a public series it is unlikely that any prejudice whatever would have appeared. The ultimate result, however, even of this private study, which as a matter of fact was undertaken for the purpose of performing a service, has

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been to arouse many thoughtful citizens of the state to conditions which it is still within their power to remedy, and to lead to considerable agitation and discussion, the results of which cannot fail to be beneficial.

In the opinion of the writer, upon the theory that the Census Bureau is a laboratory or experiment station maintained to furnish the greatest possible assistance, it should be the duty of the Bureau, upon the appearance of figures in connection with any inquiry, which reveal an unfortunate condition or one that is likely to prove unfavorable in connection with race, population, or occupations in any state, to at once dispatch experts to the field in exactly the same fashion that the Secretary of Agriculture sends to the South experts to discuss cotton pests, or to the North or the West others to deal with the diseases of cattle, grain or fruits. The Bureau having accumulated sufficient data should then promptly prepare a careful and sympathetic review of the subject, in which the human element shall not be entirely lost. This should include discussion of the causes which have produced the unfavorable conditions and should if possible point to remedies sufficiently practical to commend themselves to the people of the states or communities involved.

I have already referred to the monograph upon Vermont published by this association and prepared by private citizens without suitable resources or time for the task. There is nothing at present affecting the population of Vermont which cannot be overcome by intelligent effort, but the Census Bureau could have been, and could now be of incalculable service to the people of the state in their effort to better conditions, if, upon detecting seemingly unfavorable population signs, it had been organized to promptly prepare and publish a brief monograph reviewing the changes of population which have occurred and pointing out the directions in which they tended. It should be noted, also, that the census of manufactures in 1910 revealed the fact that Vermont showed the smallest increase in value of products of any state in the Union. Obviously a chapter on the causes of this change and some reference to favorable tendencies would be helpful. The modern census has now reached such

colossal expense that the States are entitled to the greatest possible dividend in helpfulness.

At the census of 1910 the changing conditions of population in the state of Missouri by which more than half of the counties in that populous state decreased sharply in number of inhabitants excited considerable interest among statisticians. It has been said in explanation that this condition was the result of wholesale emigration from Missouri to the new state of Oklahoma, just as in 1900 a similar decrease in Iowa was caused by the removal of many thousands of people across the Canadian border to the rich wheat fields of the Northwest. The mere explanation concerning the destination of great numbers of substantial citizens is of comparatively little value, but the fact that they have *gone*, is all important to Missouri. The federal government might properly prepare for states, affected by acute diseases of this kind, studies which reveal clearly the growth of the counties affected, the exact facts concerning the population change, and the remedies, if any, which should be applied. It is possible that the state of Missouri is so rich in citizenship that it can withstand the drain upon population resources for one decade, or longer, but Vermont and some of the other eastern states have shown conclusively that this cannot continue for a long period without a decided decrease in the quality of citizenship and in the prosperity of the state. If great numbers of the citizens of Missouri remove from the state, it is reasonable to believe that there are conditions of existence in many counties, at least, which have produced discontent and which perhaps earnest and intelligent action could remove. What are these conditions?

Nothing is more marked among the facts developed from the population returns of the Thirteenth Census,—so far as we know what they are,—than the changing conditions of residence in the country and city, and the equally striking change in composition of the population, especially of the cities. Curiously enough one race tends to succeed another in a locality, calling, or operation. Such developments as the Lawrence strike might merit attention in its broadest general population aspects.

There might also be profitably made certain special studies upon the proportion of children in states where marked decrease has been noted. It was remarked by the Superintendent of the Ninth Census in the report on population in 1870 that the birth rate in the United States had been steadily decreasing since the earliest census returns. The fact which had impressed this official 40 years ago has become steadily more acute, and while we lack entirely certain data upon which to base any definite conclusions as to birth rate very far back in time, a study of the proportions formed by young children to the remainder of the population at different censuses, which indeed can be made from the very beginning of census taking, would prove exceedingly interesting, and might be of much value. The solicitude in France over the decreasing birth rate and the futility of measures which there have been taken to arrest it, suggest that if such a malady exists in this country, concealed and minimized by generous immigration, it is likely to prove the gravest of national diseases. Studies upon this subject by the federal Census Bureau, if made carefully and conservatively, cannot fail to be of value. Many of us, indeed, believe them to be imperative.

In the returns of the census of agriculture published by the Bureau, it is not customary to go below the county unit in any of the details. Taking again the case of Vermont, in value of agricultural products during the past decade a large increase appears, due principally to a form of inflation resulting from the general rise in the cost of living. Vermont and other states are being misled by such figures. It would be of immense advantage to all the states if they could have comparative figures for the amount and value of farm products for certain towns, at least in some counties. Such studies for small areas which showed doubtful results at the Thirteenth Census, would be exceedingly valuable in all the New England states, in New York state, and wherever the problem of agricultural production is growing more serious.

Another subject of great future importance to some eastern states is the value of the summer estate in comparison with the retention of the land in farms. So far as I am aware this subject has never been discussed. Already a number

of townships in several New England states have been so completely bought up by summer residents that they have been practically withdrawn from agricultural production. Are there sufficient compensating advantages? Such facts as are available seem to make it very doubtful. The Census Bureau has all the necessary data for 40 years at least to illuminate this subject, which is constantly becoming of greater interest.

The Thirteenth Census has developed an interesting fact in connection with the broad subject of the industrial growth of groups of states, which is worthy of serious attention in the form of a special study. The development of industrial states at the North, comprising New England, New York, Pennsylvania, and New Jersey, by which manufacturing became more and more important and agriculture of less and less consequence and by which the native stock which had peopled and made these commonwealths powerful continually drifted from country to city or to other localities, while the cities grew in wealth and population recruited from all parts of the world, has created new and remarkable population, industrial, and economic conditions in those areas. With little final or definite knowledge as yet on this important subject, most of us probably will agree that the development of a nation or a state along lines almost exclusively industrial and with little regard to prosperity in agriculture is likely to be attended by many serious drawbacks to permanent prosperity. This, however, has been the character of the development, to a remarkable degree, of the north-eastern manufacturing states. It now appears that the latest comers in the field of industrial activity, as shown by the Thirteenth Census, is the group of southern states beginning with Delaware and passing south and southwest to and including Oklahoma. This is the area of the United States which has been historically and distinctly the agricultural section of the Union. It has resisted the incoming tide of immigration and in consequence the southern white population has maintained purity of stock with little change except in the larger cities. Within the past dozen years however, there has been a remarkable awakening of industrial devel-

opment, but a study of the returns of the Thirteenth Census thus far published suggests that the southern and southwestern states, whether through design or accident, appear to be following a different policy of industrial expansion from that pursued by the states in which similar growth set in at an earlier period. The southern states have achieved a remarkable advance in manufacturing during the past decade, attended at the same time by great prosperity in agriculture, by the retention in the rural life of these states of a larger proportion of the population than is found in the rural element elsewhere in the nation, and by maintaining comparative purity of the white population. These rather remarkable results seem to be exceptional. Indeed, the percentage of increase in the rural population in this group was approximately double the increase which occurred elsewhere in the nation. About one half of the total rural population of the United States now resides in this group of southern states. The foreign white population, which was approximately 565,000 in 1900, increased about 140,000 during the decade to 1910, but the generous percentage of increase indicated in this result was in reality confined to three of the 16 states in which Texas was the leader, and the proportion formed by the foreign element was approximately but 2.5 per cent. of the entire population.

Judged by the standards established in the development of the industrial states of the North, the tendency to remain upon the plantation and the failure to generously increase the foreign element of the population would not be conducive to industrial activity, but the record of the southern states in this respect during the past decade is both interesting and impressive. Between 1904 and 1909, 52,311 manufacturing establishments came into existence in the United States. One third of this number were located in the southern group. The increase in these states reached almost 50 per cent. as compared with slightly more than 20 per cent. reported elsewhere. Capital invested, wages, and average number of wage-earners in the southern group showed slightly larger percentages of increase than occurred in the other states as a whole. Moreover, the value of the southern manufactured

products, a total of one billion dollars in 1904, advanced to more than two and a half billions five years later. This rate also exceeded the national rate of increase. Thus a group of states commonly regarded as distinctly agricultural apparently has manifested a real industrial awakening.

While this change was in progress, however, the farms in the South increased generously in number as compared with a stationary or decreasing number in all the northern or western states except the far West. The increase in the improved lands in the South outstripped that reported in the North and the Middle West. The southern states reported a little more than 100 per cent. increase in the value of farm property, also greater than that shown elsewhere. Twenty-two states only showed increase in the number of head of cattle from 1899 to 1909, but ten of these were in the southern group. The number of swine in the South showed a stationary condition as against a decrease of 11 per cent. elsewhere. In consequence the rising value of hogs, amounting to more than \$3 per head, which attended the heavy national decrease in number, naturally benefited the states in which there had been practically no decrease. Therefore the value of swine in the South approximately doubled during the decade. While in New England the number of sheep decreased 50 per cent. in ten years, and the decrease in all the states of the Union exclusive of the South amounted to 20 per cent. in the latter group it was but 5 per cent. and as the average value of sheep increased \$1.67 per head in consequence of the great decrease in the nation, in the southern states where the flocks of sheep remained practically unchanged, the increase in value was substantially clear gain. In short, while the general decline in the number of farm animals from 1899 to 1909 is one of the most interesting and serious facts reported by the agricultural census, the South by holding her own has profited enormously at the expense of the remainder of the Union.

Development in the southern states of late appears to have been two-fold. Industrial activity has grown side by side with increased agricultural enterprise. Apparently there does not exist in the southern states that marked tendency to

abandon the farm and remove to urban centers which has been made so manifest elsewhere. Furthermore the industrial and agricultural development are being accomplished by the native stock and with little evidence of a tendency to increase the foreign element. These interesting facts suggest the possibility of an important study by the Bureau of the Census, analyzing the population and economic development of states and communities with especial reference to healthful and normal, or over-rapid and one-sided growth.

These are merely some of the many lines of analysis and special research which occur to one worker in census figures as likely to repay in practical helpfulness varying degrees of investigation.

There are many statisticians and economists in this country who have not proved particularly successful when set to work by the Census Bureau as special agents to conduct or analyze entire inquiries, but who are peculiarly qualified to write brilliant and far-sighted discussions of phases of development revealed by special studies of census figures. The highest efficiency of the Bureau cannot be reached, in the opinion of the writer, until side by side with or closely following the publication of basic facts shall appear studies which deal with pressing and often current problems touched by the work of the enumerator, but which generally are permitted to remain buried in census tables, because private investigators do not possess the facilities, or public officials do not possess the ability, energy, or inclination to prepare effective and useful monographs on these practical themes.

This, it must be remembered, is an age of expert investigation in almost all lines of human activity. Capitalists, considering the acquisition of mineral or timber lands or other classes of property, dispatch trusted and experienced investigators to prepare elaborate reports after painstaking inquiry. We deal with the problems of business and life today with greater precision than of old. We seek for exact facts upon which to base judgment and in this the census has been a mighty educating force for the American people. As a nation we have grown to like figures; we have become accustomed *to want to know*. In supplying much of the

information required by this tendency the Census Bureau should lead.

After the publication of the paper previously referred to upon "Population Conditions in Vermont," the writer was told by a citizen of another state that population conditions in his own commonwealth were even worse than in Vermont, but were concealed by urban growth. He suggested a paper for his own state similar to the one published for Vermont. He was told that under no circumstances would the second task be undertaken, with its attendant labor and strain.

Such studies are rightfully public enterprises, and within just limitations as to quality, quantity, and subject, which an efficient Director of the Census should be able easily to establish, they offer a most appropriate and agreeable field of work for the Bureau.

There remains one important qualification in connection with this review of census work. All that has been said in this paper is of no consequence or interest, if the basic tables are not to be issued promptly, or if it be assumed that the work of the Bureau of the Census consists in the collection of figures and their retention in the bureau until clerks and small officials of varying capacity, energy, and limited point of view shall have worked them over and over, to add finally meaningless comment about self-evident totals or percentages.

In the opinion of the writer, this policy is far removed from the purpose and spirit of the modern census. The basic facts of a census should be published in permanent form at the earliest possible moment. The returns should be available in every library for the examination and study of students, and the Census Bureau having thus performed its main function, will then be free to take up such individual studies as the conditions developed by the census and the period may make advisable. Delay in the publication of basic facts for years after the taking of the census is not only fatal to special investigations and most unwise as a policy, but means untold inconvenience to every worker in federal figures. After many years of close identification with the publications of the census, a number of which indeed I have myself written, I am convinced that interpretation of tables

in the regular census reports and bulletins receives from readers (if any) and students practically no attention whatever, and that the only way in which a thoroughly effective presentation can be made is a special paper or monograph which forms a well-rounded, logical, and continuous discussion embracing all important phases of a given subject.

As suggested at the outset, there has been no period in the history of the United States in which discussion of the various tendencies of our composite population, of our changing industrial and agricultural life, and of the sinister tendencies toward decreasing fertility has been more urgently needed than it is at present nor one in which it could accomplish more good for individual localities and states. It may be fairly claimed that the opportunity for the Director of the Census to benefit his fellow citizens is greater than the opportunity of almost any other federal official, since while others deal with commercial conditions, with the qualities and breeds of cattle, with tariffs and with the products of the mines, he alone has it in his power to show the change—the improvement or retrogression of the human stock which comprises the nation.